

BULLETIN



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----- Washington Park Arboretum --

The Arboretum is a 230-acre dynamic garden of trees and shrubs, displaying internationally renowned collections of oaks, conifers, camellias, Japanese and other maples, hollies and a profusion of woody plants from the Pacific Northwest and around the world. Aesthetic enjoyment gracefully co-exists with science in this spectacular urban green space on the shores of Lake Washington. Visitors come to learn, explore, relax or reflect in Seattle's largest public garden.

The Washington Park Arboretum is managed cooperatively by the University of Washington Botanic Gardens and Seattle Parks and Recreation; the Arboretum Foundation is its major support organization.

– Graham Visitors Center ——

Open 10 AM—4 PM daily; holidays, NOON—4 PM. Closed University of Washington holidays. The Arboretum is accessible by Metro Transit buses #11, #43 and #48. For more information: www.transit.metrokc.gov

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The Arboretum Foundation's mission is to create and strengthen an engaged community of donors, volunteers and advocates who will promote, protect and enhance the Washington Park Arboretum for current and future generations.

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— Washington Park Arboretum Bulletin —

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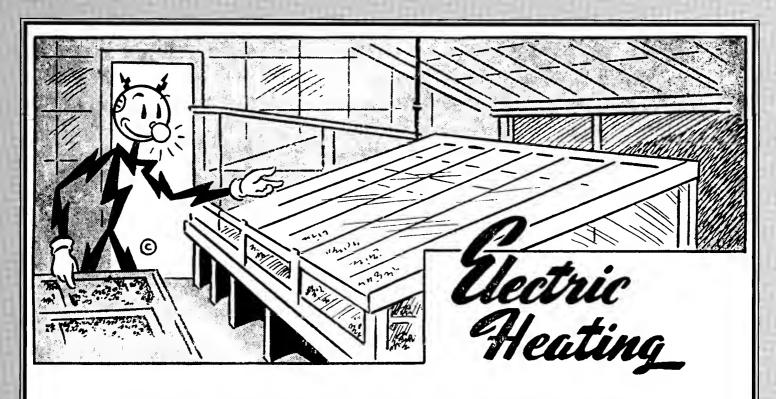
Gardens

Randall Hitchin,
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Spring 2010 Volume 72. Issue 1.
© 2010 The Arboretum Foundation.
ISSN 1046-8749.

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Electric bottom heat is valuable for the rooting of cuttings. Root development is speeded and labor saved. Although conventional equipment may not be available under war conditions, Puget Power's Agricultural Engineering Department can assist in improvising with available materials.

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ABOVE: An ad featuring Reddy Kilowatt appears in the September 1944 issue of the "Bulletin." Read Brian Thompson's history of the "Bulletin" from its inception in 1936 through 1946, beginning on page 24.

ON THE COVER: Artist Lisa Snow Lady's "Dance in the Forest" celebrates the Arboretum Foundation's 75th anniversary. See more of her work at www.lisasnowlady.com. Read Executive Director Paige Miller's account of the beginnings of the Arboretum Foundation on page 2.

75 Years of Commitment

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it's the only thing that ever has."

MARGARET MEAD (DISPLAYED ON THE WALL AT THE NEW GATES FOUNDATION HEADQUARTERS SITE)

r. Mead's words could have been written with this 230 acre corner of the world in mind. For decades, starting in the 1890s, a few people at the University of Washington had the vision of creating an arboretum on the new campus or nearby, but all of those early efforts failed.

The opportunity to make the dream a with reality finally came the Great Depression—in the form of that era's federal economic stimulus funding. Forestry Dean Hugo Winkenwerder and local leaders of the WPA quickly secured funding from the Seattle Garden Club to commission a plan from the Olmsted Brothers for the Arboretum. But, who would provide the project matching funds and ongoing support? The University was facing massive budget cuts and could not come up with even \$3,500 to match the million dollars in federal funds.

So, a new organization was born to provide private support: the Arboretum Foundation. As former University President Henry Schmitz wrote in his history of the Arboretum:

Despite the difficulties and problems of this period the Arboretum project went on, largely because of the continuing interest, support and enthusiasm of a group of dedicated people who simply would not let it die...The Arboretum Foundation had been created by the [Arboretum] Advisory Council in 1935. Actually, both the Advisory Committee and the Arboretum Board consisted of a group of able, determined, and

dedicated citizens who were simply going to develop an Arboretum despite all obstacles and difficulties.

And develop an Arboretum they did!

As one reads the history, the same names appear again and again: Sophie Krauss, Loren and Edna Grinstead, O.B. Thorgrimson, Dorothy Bullitt, and, especially, Donald Graham. And with their efforts, the Foundation took on the major responsibility of providing the matching funds for the WPA project and even paying the salary of the Arboretum's director.

And so the story repeated again and again over the decades. Whether it was the effort to plant new gardens in the 1940s and 50s, to build the new Graham Visitors Center in the 1980s, or to develop a new Master Plan in the 1990s, the committed citizens of the Foundation took the lead.

As we salute that small group who created us and celebrate the 75th Anniversary of our founding, we are again in the midst of an economic crisis. The University again faces deep budget cuts and so their staff will need even more support from us. And, again, it will be up to those who lead this place to carry on the legacy of the founding citizens to spread the word of the need to continue to renew and sustain this special place. Indeed, we are the only ones who can.

Cheers to you all,

Paire Miller

Paige Miller, Executive Director,
Arboretum Foundation

QUIET PIONEER:

Brian O. Mulligan and the Making of Washington Park Arboretum

BY BETSY ANDERSON

n a still winter morning, the Washington Park Arboretum is a reflection of Brian Mulligan himself. Against a hushed backdrop of brooding native conifers, the woody plant collections are

going about their business of growing, opening their limbs wide to catch the last receding drops of an early December fog.

This steady pace of life and quiet growth would no doubt please Mulligan, who approached the building of the plant collections in much the same way. Brian O. Mulligan first arrived in Seattle in the fall of 1946, "a mild-mannered, somewhat tweedy, slight-built young Englishman," as he was described in 1947 in an introductory article in this very publication.

For the next 50 years, Mulligan would shape and guide the development of the Arboretum, transforming it bit by bit from an exposed 230-acre tract to one of the finest assemblies of trees and shrubs in North America.

"From what I can deduce, Brian hit the ground running," explains Plant Collections Manager Randall Hitchin. Mulligan's serious intentions for the then-University of Washington Arboretum were apparent from the start. Beneath the humble demeanor, for which he was known, coursed an absolute passion for

plants and a determination to

create a world-class living museum. His promotion to director of the Arboretum, which occurred only months after he assumed the post of curator, was acknowledged—even at the time—as a turning point in the history of Washington Park: Mulligan was "the spark plug that has suddenly charged the Arboretum with new life," as one "Bulletin" contributor put it.

He also was a distinguished presence in the pages of this quarterly from that time forward,

contributing over 150 articles in his 26-year tenure as director and his following 24 years of volunteer service, until his death in 1996. His devotion to his plants resonates through the pages of past issues, and the result is a publication of resounding quality, interest and depth. The same can be said of his influence on the Arboretum. "A great deal of what you



ABOVE: Brian O. Mulligan upon his arrival to the Washington Park Arboretum. Portrait by Robert Dinsmore, published in the Arboretum Bulletin in spring 1947.

see as you walk around here is the impact of Brian," continues Hitchin.

The Olmsted Order

Like any landscape, however, the Washington Park Arboretum that we explore today reflects several layers of human interaction. In the 75 years since it was set aside for a botanic garden and arboretum, it has known several approaches to plant curation. The first is the famous Olmsted Brothers plan, drawn up in 1936 and more accurately attributed to James Dawson, who was the Massachusetts firm's man on the ground in the distant outpost of Seattle. Dawson's plan grouped the woody plants taxonomically, or by plant families, and is indicative of the type of botanic gardens the Olmsteds were designing all over the country.

The Olmsted-Dawson method imposed a pre-determined sequence of plantings as one moved through the Arboretum, with plants sited based on their perceived evolutionary relationship rather than on their cultural requirements. Brian Mulligan is best known for reworking Dawson's planting plan to ensure that the new introductions could thrive in the varied microclimates of Washington Park. "We know from institutional legend that after Brian arrived in 1946 and saw the Dawson plan, he threw up his hands and said, 'Well this isn't going to work very well,'" recounts Randall Hitchin. "He understood that plants don't exist in a vacuum and that if you don't provide them what they need in terms of water, soil and exposure, the taxonomic framework—as attractive as it is on paper is not sustainable."

Ultimately we can thank Dawson and the Olmsted Brothers firm for the broad landscape features and lay of the land as we know it, but the thick tapestry of flourishing, diverse plant material began with Brian Mulligan. The objective of the Arboretum, wrote Mulligan in a 1954 map and guide, is to "develop the whole area to the best advantage both of the plants



Brian and Margaret Mulligan, mid-career. (Photograph courtesy of John Wott)

cultivated and of those wishing to see them."iii

Mulligan's gift for siting plants continues to benefit the Arboretum, as former Director John Wott explains: "During the development of the Master Plan, we carefully analyzed the collections and plotted the location of every last specimen. By and large, everything was placed so well that we haven't had to worry about moving many plants. We know they are going to be successful."

Roots

Such intimate knowledge of the soil and growing conditions in Seattle belies the fact that Mulligan, like much of his plant collection, was a transplant here. Yet it was precisely his background and training in England and Northern Ireland that made him uniquely suited to build a superlative botanic garden in the northwestern United States, then a frontier post in the world of horticulture.

Brian Mulligan was born in 1907 near Belfast, in one of the best plant-growing regions on earth. It could not have been a more auspicious time or location for a burgeoning plantsman to enter the scene. His mother was a member of the Royal Horticultural Society (RHS) and the English Alpine Garden Society, and she grew long, colorful borders that luxuriated in the mild climate of Northern Ireland's County Down. At the end of his life, Mulligan would recall the red admiral butterflies that congregated amongst her asters, crocosmia and heleniums. His aunt was in rare possession of a car, which allowed his mother access to the rich nursery resources of the region, which in turn trans-

Brian Mulligan's photographs of trees in their native habitats (here a *Picea engelmannii* in central Washington's Methow Valley at 5000 feet) reveal his interest in the flora of western North America, as well as the growth habits and composition of woody plants in nature.



formed Brian's childhood garden into a showcase of plants from as far away as Chile, New Zealand and the west coast of the United States: He would remember in particular the frothy, cream-colored blossoms of our native ocean spray, *Holodiscus discolor*, that graced her small, triangular garden.

Sixteen miles away lived a shy gentleman gardener who would exert an even greater influence on Mulligan's life and career. Four years before Mulligan's birth, Hugh Armytage Moore had inherited a rocky, 52-acre garden in the rolling hills of Saintfield, County Down. Moore would spend nearly a half-century filling the garden at Rowallane with an unrivalled wealth of plants, gathered first-hand from famous nurseries and plant explorers of the era. "If the living contents were catalogued they would be the envy of many a western arboretum," wrote Mulligan of Rowallane in 1961.

Moore was collecting in an exciting age of plant discovery, and his letters to legendary plant hunters Ernest Wilson and George Forrest, among others, reveal both his plantsmanship and his willingness to experiment with new Chinese introductions. Moore was particularly fascinated with rhododendrons, and in October 1964 Mulligan wrote an important article for the "Journal of the American Rhododendron Society" in which he identified *Rhododendron banceanum* 'Nanum' as a Rowallane-raised plant: "...our attractive pygmy sport of hanceanum," as Moore had described it."

Though self-taught, Hugh Armytage Moore was renowned for both his horticultural skill and his detailed record keeping, qualities that Brian Mulligan would observe and develop throughout his own career. Every plant that arrived at Rowallane was meticulously researched by Moore to ensure its success in its new home, and he combined his technical abilities in plant placement with a talent for grouping specimens for maximum aesthetic impact. As Graham Stuart Thomas noted, Moore "had a rare gift for planning and a great eye for plants."



The Spring Ground at Rowallane in autumn, with its famous gathering of rhododendrons in the distance. (Photograph by author, 2007)

Rowallane's dramatic juxtaposition of densely planted thickets and broad swathes of open space are echoed in the structure of the Arboretum. The two landscapes also share a mature framework of sober evergreen plantings, with an understory of vigorous, often arboreal rhododendrons. The hummocky character of much of the landform and the primeval mossy corners is similar, and the milky quality of light in a Pacific Northwest winter can bear striking resemblance to that of the British Isles.

Whether deliberately or not, the influence of the Irish plantsman's garden found its way to Washington Park. Mulligan's writings on Rowallane reveal a sensitivity to and appreciation for Moore's work that must have to some degree inspired his own. He admires the "great care and skill" that Moore used in placing and arranging plant material "to provide long vistas as well as prominent individual specimens or

groups of similar kinds of shrubs."vii In the 1960s Mulligan reflected, "I believe that Rowallane gave me excellent training . . . on the placing of trees and groupings of shrubs in the landscape, at which Mr. Moore was an acknowledged master, which has subsequently proved most valuable."viii

Despite their geographic proximity, Mulligan and Moore did not meet until 1929, by which time Mulligan had left County Down to attend the RHS School of Horticulture at Wisley. Mulligan recalled that he would visit his mentor "by train in those days... whenever I was at home on vacations from Wisley or wherever else I was employed in England at the time." Their friendship resulted in an extensive, plant-filled correspondence, beginning in the 1930s and lasting until Moore's death in 1955. Mulligan's letters to Moore are now housed in the garden archives at Rowallane, and it was through these carefully

typed and yellowing pages, 4000 miles away, that I first made the acquaintance of Brian O. Mulligan.

Growth

Mulligan came to the Washington Park through the efforts of Donald Graham, who was serving in England during the Second World War. Graham, a longtime friend of the Arboretum, had the occasion to observe a number of well-organized and productive vegetable gardens created at Royal Air Force (RAF) stations around Great Britain. Mulligan was the senior advisor for the RAF's vegetable growing efforts, and his work so impressed Graham that upon his return to the States, Graham immediately endorsed the young horticulturist for a post at Seattle's fledgling arboretum.

Six years spent as assistant director of the gardens at Wisley also recommended Brian Mulligan for the job, as did a glowing letter

from Royal Horticultural Society President Lord Aberconway, who remarked that "... your gain would be our loss." Mulligan arrived in Seattle in October 1946 as curator and acting director of the University of Washington Arboretum. With him came his energetic wife, Margaret, and for the first year the two lived in the Stone Cottage on his salary of \$300 a month.

The largely undeveloped and woolly landscape of post-war Washington Park must have struck Mulligan as a thrillingly blank slate on which to develop a plantsman's garden on the order of Rowallane—one that would doubly serve as a rich botanical and educational resource for the entire west coast of North America. "There was essentially no one else in this part of the world, botanically speaking," explains John Wott. "Brian was it."

This was an opportunity on a scale that Mulligan could not have achieved in Britain: He had more than 200 acres to shape, and

An accession card for the Arboretum-raised *Magnolia* 'Wada's Memory,' with notes in Brian Mulligan's hand. Mulligan is remembered for his meticulous record-keeping, especially late in life. (Courtesy Curation Office, Washington Park Arboretum.)

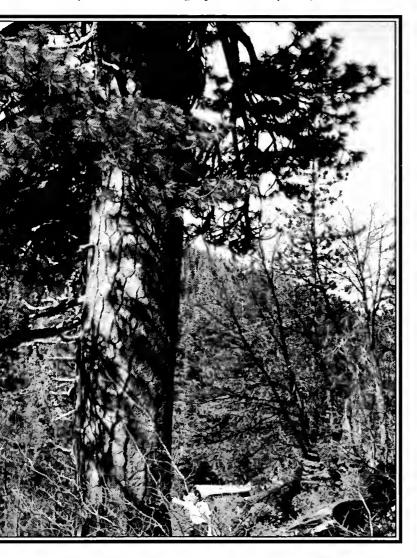
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he lost no time in drawing upon the contacts he had cultivated at Wisley in order to fill the Arboretum with plants. The accession books from this period, and the hand-written index cards for each new plant introduction, reveal a whirr of activity. "It's clear that from the first year or two he was engaged in seed exchanges and exchanges of other kinds of plant material," says Randall Hitchin. "He didn't waste a minute in trying to both draw on that network [of plantsmen and gardens worldwide] and feed into it for the greater good."

The Odd Couple

In 1952, Joseph A. Witt—fresh from a graduate position as teaching fellow in the University of Washington's College of Pharmacy—joined

Another Mulligan photograph, with the notes: "Western yellow pine (*Pinus ponderosa*) at Pyramid Camp, hwy. 50, east of Placerville, Calif. Alt. about 5,000 ft. Trunk d. b. h. over 60 ins. May 1949." (Photograph courtesy of John Wott)



Mulligan as recorder at the Arboretum. Five years later Witt was appointed assistant director. For the next three decades, Mulligan and Witt worked so closely together that it is sometimes difficult to distinguish where Mulligan's influence left off and Witt's began. "It's hard for me to judge totally what Joe Witt's role was," remarks John Wott. "I'm sure that Brian, in his heyday, pointed his finger and said, 'This is where the plants go,' but Joe got it done."

"You get the sense that Joe was the sort of everyday man—the salt of the earth, the public face—and Brian was more of the erudite, scholarly stripe," adds Hitchin. "They represented different faces of the Arboretum and different influences." Witt's gregariousness and interest in public interpretation were a complement to Mulligan's more introverted focus on the collection. "You couldn't imagine two more polar personalities," smiles Hitchin. "And they shared the tiniest little office," recalls Wott.

This was a period of tremendous growth for the Arboretum. Mulligan seems to have been given carte blanche over its development and received enough financial support to carry out his plans. Hitchin describes the era as the garden's adolescent years: "I don't know what the magic was in the late '40s, '50s and '60s," he muses, "but we were growing like crazy, and our voice was cracking."

A flurry of new plant introductions left Washington Park during Witt's and Mulligan's tenure, including the spectacular giant Mahonia evergreen 'Arthur Menzies': Rhododendron 'Seattle Springtime', the first named rhododendron hybrid to originate at the Arboretum; and a promising upright form of our native bigleaf maple, Acer macrophyllum 'Seattle Sentinel', discovered by Mulligan in 1951 growing on the corner of East Madison Street and 18th Avenue East. Perhaps the most widely grown Arboretum introduction is the elegant Magnolia 'Wada's Memory', an unforgettable hybrid of Magnolia kobus and M. salicifolia that came to the Arboretum from K. Wada, owner of Hakoneya Nurseries in



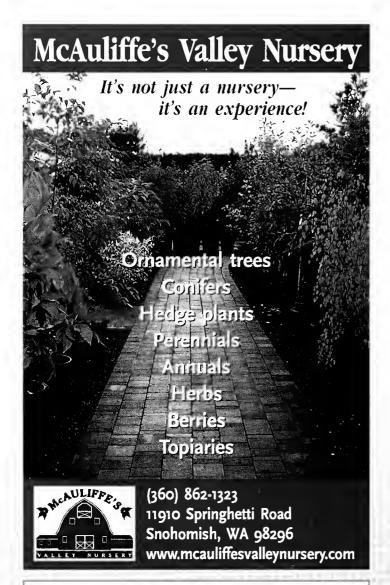
Brian Mulligan (left) directs a pruning demonstration with Al Howe in March 1952. Howe was responsible for recording, labeling and seed collecting. (Photograph courtesy of the University of Washington)

Numazu-Shi, Japan. Mulligan selected the outstanding specimen from a group of 21 plants and named it for his friend Wada, with whom he maintained both a professional and personal correspondence for many years.

Native Inspiration

Witt and Mulligan shared an appreciation for native plants and a desire to observe them in their natural surroundings. Mulligan explored the Western landscape and flora with zeal, collecting specimens and employing his considerable skill as a photographer to document plants growing in their indigenous habitats. Margaret Mulligan, who was also a knowledgeable plant-lover, was an important partner in these expeditions, and the couple was often accompanied in their wilderness adventures by friends who shared their botanical interests... and indefatigable energy.

As Henry T. Skinner, director of the U.S. Department of Agriculture, wrote Mulligan in 1957, "You seem to have a wonderful time seed collecting and mountain climbing, though from Don Wyman's report an unwary traveler should be in pretty good training before visiting with you." Wyman was the longtime horticulturist at Harvard's Arnold Arboretum and was obviously familiar with the particular Mulligan brand of recreation.





Congratulations to

"A FAMILY'S LITTLE FARM IN THE CITY,"
by Northwest Bloom/Ecological Landscapes,
winner of the Gala Choice Award for
most popular display garden at this year's
Arbor Eden: The Preview Gala.

Throughout its history, the Arboretum has been in a state of tension between its native framework of vegetation and the valuable group of plants that have been gathered here from all corners of the world. Mulligan's intimacy with the wilder landscapes of the American West allowed him to harmonize the two influences more successfully than ever before, arranging non-native plants to evoke the natural characteristics of a Pacific Northwest forest. He was the rare plantsman with an eye for design and a determined international collector with a deep respect for his collection's local context.

A Plantsman's Garden

Did Mulligan have a favorite plant? Some have suggested that he was particularly keen on the genus *Sorbus*, or mountain ashes, which he first began to study while at Wisley and continued to observe in nature in later years in America. The mountain ashes were indeed a particular interest of Mulligan's—the Arboretum planted a *Sorbus* collection his honor in 1990—but they were one of many loves.

"My impression is that Brian was a generalpurpose, wide-spectrum, full-scale plant geek," says Hitchin. "His interests were very diverse and very broad, but he was also very methodical and detailed. When he took on a group—a genus, for example—he delved in up to his waist... He really plowed through it and studied its length and width and breadth and depth, and then he would move on to the next one. He never forgot his first loves, but he was always moving ahead." The results are extensive, significant collections of genera, including Sorbus and Acer, which are the largest in North America. "In this way, you can see the trajectory of his career checkered throughout the collection," reflects Hitchin.

Brian Mulligan's influence can be charted by a seemingly unending list of publications, botanical society memberships and horticultural awards, but to really follow his life one

Continues on page 29

PHOTO BY CAELLYN EVERSON



Caring for the Rarest of the Rare

BY SARAH REICHARD

n nearly any summer day, you may encounter University of Washington Botanic Garden (UWBG) volunteers along a forest road or backcountry trail in Washington state. They are among the hundreds

trained by UWBG staff and faculty to help monitor Washington's rare plant populations and collect seeds of rare plants for the Miller Seed Vault, a sort of Noah's Ark for plants located in Seattle. These volunteers are conservation heroes.

The Washington Rare Plant Care and Conservation Program, known as Rare Care for short, started in 1998 to fill a critical gap in Washington state academic programs. Until then, there were no programs focused on rare plant recovery, and very little was (or still is) known about the biology of the nearly 400 species of rare plants found in the state. What are the threats

"Thanks to the Rare Care program, research on rare plants by UWBG faculty and graduate students has resulted in a number of helpful discoveries that will aid in rare plant recovery."

to the populations? What do the seeds need to coax germination? How can we help them recover? Recovery of rare plant populations often is hampered by such wide gaps in our knowledge.

Thanks to the Rare Care program, research on rare plants by UWBG faculty and graduate students has resulted in a number of helpful discoveries that will aid in rare plant recovery. For example, Devin Malkin found that rock climbers have an adverse impact on the cliffdwelling species Seely's catchfly (Silene seelyi), when they "groom" the plants out of the crevices to facilitate hand and toe holds. Jeanie Taylor, working on one of Washington's rarest species, showy stickseed (Hackelia venusta), discovered that while it requires pollen from another plant to produce seeds, there are many insects who pollinate it. Land managers therefore do not need to be concerned about also managing special pollinator populations. Jeanie also learned that showy stickseed's seeds require alternating periods of cold and warm temperatures to germinate, which is not surprising given its habitat among rocks in the North Cascades. Whited's milkvetch (Astragalus sinuatus) has high levels of seed predation by insects, more than another native milkvetch nearby, according to research by Julie Combs. This indicates that populations of the rare species must be carefully watched to ensure that enough seeds escape predation for germi-

nation and replacement of older plants that die. Julie is now continuing this research other by looking at rare/common pairings of native milkvetchs to see if they may help us understand rarity and commonness in this very large genus. Land managers who are struggling to maintain healthy populations of rare species, and who often have an incomplete understanding of why

they are rare, welcome such research.

In addition to a lack of knowledge about biology, there is a lack of understanding about what is happening to and around the populations. We have a rapidly growing

Silene seelyi (Seely's catchfly) grows in crevices of rock walls in the North Cascades. (Photograph by Wendy Gibble)





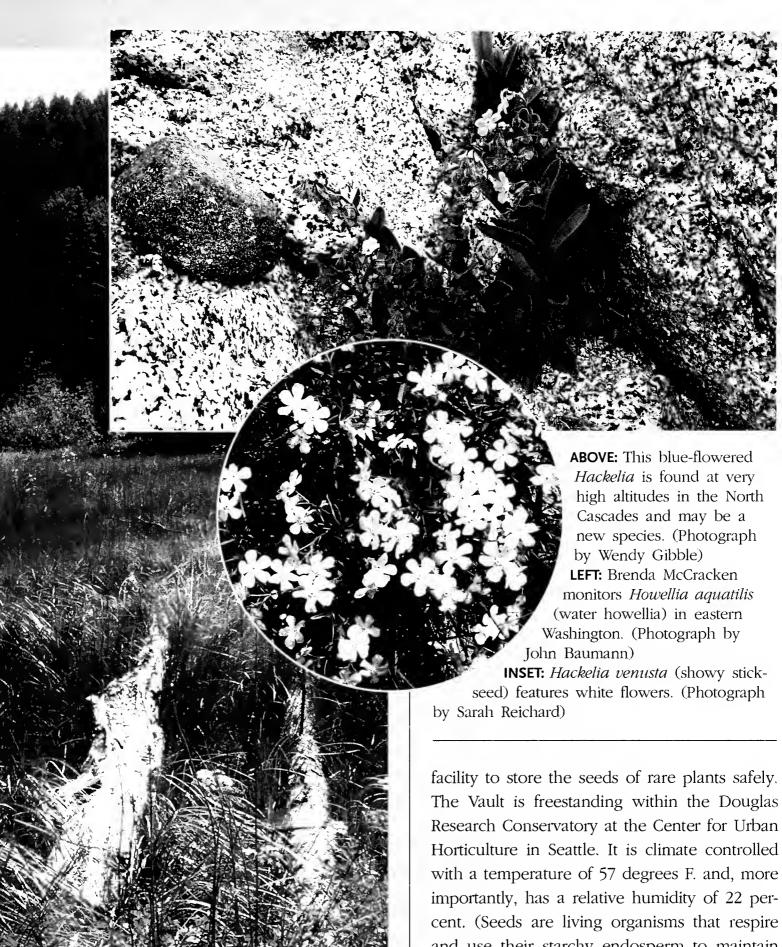
Rare Care volunteer Fred Stark takes field notes while monitoring plants. (Photograph by Katie Messick)

human population, and the pressures resulting from increased development are enormous, especially in Eastern Washington, where many of the rare plants are found. These problems are compounded by the lack of trained personnel to assess the impact of development. Most rare plant populations in Washington are visited by a professional botanist only once every 10 years—and in the intervening period, threats to the population can wipe out all the plants. In 2001, in response to requests from agencies such as the U.S. Forest Service and the Washington State Department of Natural Resources, Rare Care expanded into population monitoring. We now train volunteers who have at least two years of work experience or education in biology or horticulture to find known populations, count individuals and assess

obvious threats. Sometimes the volunteers even find new populations that the state and land managers did not know exist. The reports they file with Rare Care are turned in to the land managers, to the Washington State Natural Heritage Program (the state agency that maintains records on the state's rare organisms), and NatureServe, a national public access database. The program was an immediate hit! In 2004, it won a national award from the United States Forest Service and the Bureau of Land Management as their "Conservation Project of the Year."

Research and monitoring continue to play a vital role in Rare Care, but the Miller Seed Vault is the nucleus around which we are now building the program. Thanks to generous grants from the Miller Charitable Trust, we have built and maintain a completely unique





facility to store the seeds of rare plants safely. The Vault is freestanding within the Douglas Research Conservatory at the Center for Urban Horticulture in Seattle. It is climate controlled with a temperature of 57 degrees F. and, more importantly, has a relative humidity of 22 percent. (Seeds are living organisms that respire and use their starchy endosperm to maintain their metabolism. By keeping them in a cool, dry place we reduce respiration, which extends their lives.) The Vault measures 10 by 20 feet and has two rooms. The first is a lab where all the seed processing takes place, and the second is a room in which seeds are stored to begin drying down when they first enter the lab. Volunteers do much of the collecting

and nearly all of the processing. Once the seeds are counted and the accessions recorded, they are packaged for long-term storage in a freezer.

Seeds are removed from the Vault for research or restoration work. Some of the research includes testing them to determine what conditions trigger their germination. Seeds often remain dormant because

they have a hard seed coat that must be nicked for the embryo to emerge or they may have a physiological dormancy that needs precise temperatures to induce germination. Using three incubation chambers set at temperatures to mimic winter, spring/fall and summer, we move seeds along through the "seasons" until we

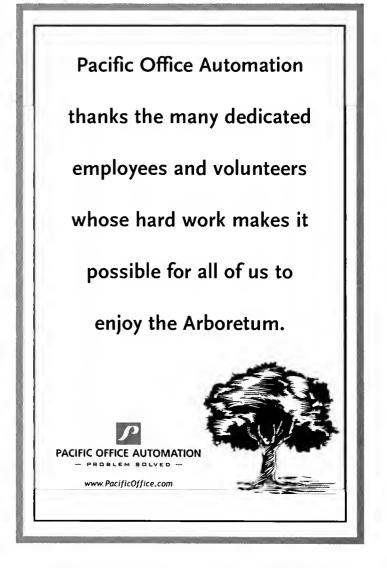
"The UWBG is very fortunate to be a member of ... the national Center for Plant Conservation, [a] network of 36 botanic gardens... dedicated to protecting and preserving our country's flora."

record germination. We hope to acquire a fourth incubator soon to allow more flexibility for testing. For most of these species, this is the first time that anyone has investigated this important aspect of their biology. We will need the information for recovery of populations in the future.

The UWBG is very fortunate to be a member of the national Center for

Plant Conservation (CPC). This network of 36 botanic gardens, ranging in location from Massachusetts to Hawaii, is dedicated to protecting and preserving our country's imperiled flora. Our colleagues at these institutions are sources of inspiration and information. When we were pondering how to monitor a





population on a steep, rocky hillside—where a misplaced foot could send rocks crashing onto tiny plants—they responded to our queries with creative ideas. As a mountainous state, we are pondering the many issues around "assisted migration" under climate change scenarios. This is the human movement of rare species to cooler climates that they may find difficult to reach on their own. Montane plant species are particularly at risk because they may be limited in their ability to move higher, and dispersal is often limited. The CPC network is working through such complicated issues together. The network also collaborates on the rarest of species, with individual gardens taking responsibilities for each. This "National Collection" of imperiled species is much like the species survival plans that zoos develop, although it is less intricate because the reproduction of plants is less complicated than that of animals.

Rare plants face many challenges in Washington state: habitat loss, fragmentation and degradation, pathogens and competing plants, invasive insects, and climate change are just a few. There are many federal, state and local agencies—as well as non-governmental organizations—with responsibilities to assist these species. The University of Washington Botanic Gardens is pleased to partner with them and proud of its hundreds of volunteers who are dedicated guardian angels of the rarest of the rare.

SARAH REICHARD is an associate professor at the University of Washington and is coassociate director of the University of Washington Botanic Gardens (UWBG). She directs the conservation, herbarium and public education programs for UWBG.



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The Hyde Herbarium: A TROVE OF HORTICULTURAL INFORMATION

BY PHIL WOOD

Auntain Maple

ean Gillespie daubs glue with all the vigor of a kindergartener using paste for the first time. Jean, however, is past retirement age; the object of her attention is not a scrap of construction paper but a dried spray of camellia foliage and flowers. It is not destined to hang for a few weeks on a refrigerator door; instead the specimen will go into a cool dark space and last for centuries.

Jean is a member of a group of six women who meet the first and third Tuesday of every month to mount specimens at the Otis Douglas Hyde Herbarium at the University of Washington Botanic Gardens. Through their efforts, thousands of plant specimens have entered the collection.

A herbarium is a collection of dried plant specimens, used for research and identification. Herbaria date to the 1500s, when Luca Ghini—an Italian—first stitched plants into a book. Storing plants in this way allows people to study them all year long, not just in the growing season, and to have many specimens at hand in a relatively small space.

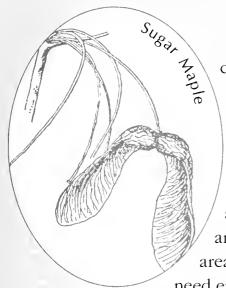
The Hyde Herbarium, made possible by a gift from Charles H. and Otis Douglas Hyde, opened in 1985. Most herbaria collections are made from native plants growing in the wild, and their purpose is to record the flora of a region. The Hyde Herbarium is an exception

voucher record of all the accessioned plants at the Washington
Park Arboretum. The Hyde
Herbarium also features a
collection of weeds that are
threatening to overwhelm
native plants.

The Hyde Herbarium sits next to the Miller Library at the Center for Urban Horticulture. A grid of windows set into handsome, light-colored wood divides it from the entrance lobby and gives inviting access to the room.

When you step inside, the cheerful voice of Collection Manager Katie Murphy greets you...

Katie is a graduate student at the Center, and tending the collection is both a passion and a part-time student job. She serves as "den mother" to the volunteers who mount the specimens and contribute in many other ways-including collecting specimens and filing them after they are mounted. According to her, the Hyde Herbarium is a great place to learn plant identification: An impressive 20,000 plants will be collected and stored in imposing-looking metal file cabinets this year alone. (And plant specimens are not the only thing stored in the cabinets... As Katie offered a look into one containing camellias, the scent of English Breakfast tea flowed out; camellias are, after all, members of the tea family, Theaceae.)



The curator of the collection is Sarah Reichard. assistant professor in the College of the Environment. Her role is to set priorities for specimen collection and to decide which areas of the collection need enhancement. "One of

the things I love about the Herbarium," she says, "is that it is relatively low tech; specimens are preserved in the same way as they have been for centuries. At the same time si Oak

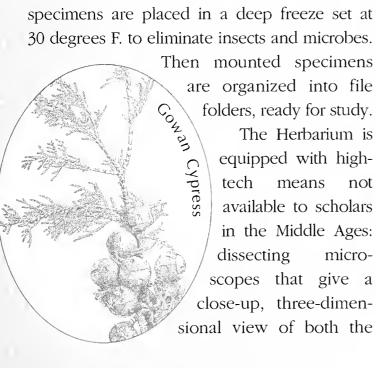
they give an enormous amount of information."

The specimens maintain exceptionally good flower color, however, because one new technique has been added to the age-old method of pressing them between sheets of adsorbent paper. The sheets are placed in stacks and

tied with straps to apply pressure, then placed in a chamber heated to 90 degrees—the temperature that has been found to preserve the telltale bloom color. After drying, the

> are organized into file folders, ready for study.

> > equipped with hightech means available to scholars in the Middle Ages: dissecting micro-





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- English Y-Stakes: Highly recommended by local gardening guru Ciscoe Morris, these versatile yet discrete metal stakes can be used to provide support to single flower stems or entire plants. Available from \$12.95 to 17.95.

Ten percent discount for members Open 10 AM—4 PM daily plants in the collection and those that people bring in for identification. Consulting one of the many books containing keys, the presence or absence of tiny features such as hairs on a miniscule bud, can help guide you to name the plant you are viewing.

The Hyde Herbarium serves others besides scholars; anyone is invited to submit plants for identification, whether they are weeds or ornamentals. To have a plant identified, bring in a piece of it, including flowers and fruit if possible. (Be sure to put the sample in a plastic bag so insects won't escape and threaten to eat the collection.) You will get the results in a week or two.

The Otis Douglas Hyde Herbarium is one of 13 herbaria in Washington state and 53 in the Pacific Northwest. Also on the UW campus is the University of Washington Herbarium, located in Hitchcock Hall and administered by the Burke Museum. It has over 600,000 specimens of plants native to our state.

Herbaria are troves of horticultural information. These collections of dead plants are brought to life and given significance by the people who create and use them. And because the Otis Douglas Hyde Herbarium documents plants found in our own Washington Park Arboretum, it is a treasure for us all. ∞

Resources

Otis Douglas Hyde Herbarium, Center for Urban Horticulture, University of Washington Botanic Gardens, 206 685-2589

Web site at http://depts.washington.edu/hydeherb
The University of Washington Herbarium Web site
contains an image collection of native plants with
maps that show location by county.

www.washington.edu/burkemuseum/collections/herbarium/ The PNW Herbarium Portal contains information about other herbaria in the Pacific Northwest.

PHIL WOOD is a Seattle garden designer and garden writer and a member of the "Bulletin" Editorial Board.

Plant Sale Etiquette

BY PAMELA HARLOW

The weekend of April 23-25 is coming up soon, but there is still time to pump a little iron in preparation for the mother of all plant sales: the 2010 FlorAbundance Spring Plant Sale held at Hangar 30 in Magnuson Park. It's also time to assemble your kit: plant lists, power snacks, grappling book, tear-gas canister and mask...and perhaps a copy of the quiz below. I've asked the sale organizers and some of your favorite growers for their help in assembling this list of transgressions from plant sales past. Among the many breaches of etiquette discussed here, there's only one that we haven't yet experienced. Can you spot it?

1. Our gardener spots a flat of tall, blooming columbines. Although they all seem more or less equivalent, be

- a. Reaches through to a plant at the back of the flat, breaking stems as he goes.
- b. Pulls out four or five plants, breaking stems of course, in order to make sure none of them are one micrometer thicker than the others
- c. Takes a plant from the front or asks a grower for assistance.

2. Our gardener watches his child, Basil Jr., eat the sole strawberry off a display plant. He:

a. Pretends nothing has happened. After all, he didn't offer Basil crème fraiche.

- b. Accuses the grower of poisoning his child and threatens to sue.
- c. Apologizes for not supervising the tyke.

3. A plant in our gardener's yard has mystery bugs, or an unsavory coating of fuzz. He:

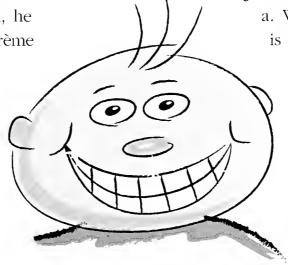
- a. Brings it to the sale and dangles it over the merchandise, demanding to know what the problem is.
- b. Takes the well-wrapped sample to the Master Gardeners or his county agent.
- c. Signs up for Sharon Coleman's Bug 101 and 102 classes through Snohomish County Extension.

4. Overcome by lust, our gardener decides he must kidnap the blooming display plant—the one that bristles with "Not-for-Sale" tags. He::

a. Wrenches it off the table, which is not easy because

the pot is wired to the flat and reinforced with packing tape (but he's been pumping iron).

b. Chooses another specimen and waits for it to bloom. After all, patience is the foundation of gardening.



5. Our gardener drops a Lewisia upside down on the floor, creating a shabby mess of broken leaves. He:

- a. Puts the carcass on a table and leaves.
- b. Takes it away but sneaks it back onto his table when the grower is helping someone else.
- c. Buys it, plants it, and watches it recover.

6. The grower has provided excellent signage for the plants, but our gardener feels a strange compulsion to remove the plant tags and read them. They might have limericks, or cartoons! But, alas, they do not. He:

- a. Replaces them in the wrong pot.
- b. Steals them.
- c. Resists the temptation to remove them.

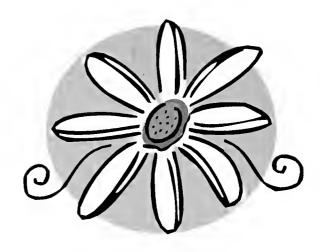
7. Our gardener wants Basil Jr. to love plants. He:

- a. Helps Basil kick the flowers so he can "feel them with his feet."
- b. Plucks a few leaves and crushes them so Basil can smell the fragrance.
- c. Parks Basil's stroller where it bars others from shopping.
- d. Engages a babysitter. Plant sales are torture for small children.

8. Friends are shopping together, and one is drawn to a Kirengeshoma and thinks it might be a great choice

it might be a great choice for her garden. The other shopper:

- a. Delivers a very loud lecture about what a trashy plant it is.
- b. Explains that it's not her cup of tea, but recognizes it may be her friend's.



9. That flower or berry is so exciting our gardener can't keep his hands off it. He:

- a. Grabs it—just like 65 other buyers—and this time it falls apart.
- b. Did a gasp of pain just emanate from the plant? Our gardener handles it gently or, better yet, refrains from handling it.

10. That seven-gallon Decaisnea fargesii would look great in our gardener's yard and he snags it at the beginning of the sale. But he changes his mind before check out and:

a. Leaves it in a quiet corner where no other shoppers can see it.

b. Returns it to the grower or places it on the orphan table. It deserves a home in someone's garden!

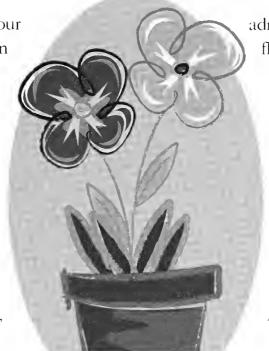
There are no grades for this quiz because you all know how to score the right answers. Plantsale etiquette, like all etiquette, boils down to this: Imagine yourself in the other person's place

and act accordingly.

Which faux pas did I invent? So far, no one has threatened to sue!

Why all this fuss about plant etiquette? Because your growers work hard to produce those desirable plants and arrange them in appealing displays...And because they need

to send their plants off to your garden in good condition in order to remain in business. In appreciation of your good plant manners, they love to talk with you about plants and will cheerfully advise you about your garden. Count on them to commiserate over deer, winter kill, neighbors' dogs and bum knees. They also will suggest helpful books and Web sites,



admire photos of your peony's first flower, and listen to, learn from and celebrate your garden experiences •

PAMELA HARLOW bought plants at Arboretum plant sales long before the nursery-owning bug hit her. Her nursery, Botanica, regularly offers perennials at FlorAbundance and the Arboretum fall bulb sale.

Two last reminders:

- 1. I have a theory that Hangar 30 was designed by homesick Minnesotans. How else to explain the Zone 3 ambiance? However warm the outside weather, bring an extra sweater.
- 2. The checkout lines peak about one hour after opening and remain busy for another hour. It's a law of nature. If the line is long, why not park your swag at the plant-holding tables and enjoy a cup of coffee?

JOY SPURR 1919 – 2009

the well-known photographer and longtime Arboretum Foundation volunteer whose beautiful photographs have enriched the pages of the "Bulletin" for many years. Joy, who passed away last December 16 after a short illness will be feaured in a forthcoming article by Lee Neff that presents a retrospective of Joy's work for the "Bulletin."





The Arboretum Bulletin The First 10 Years

BY BRIAN R. THOMPSON

n 1997 I visited the Royal Botanic Garden at Edinburgh, Scotland. As a newly appointed member of the Elisabeth C. Miller Library staff, this visit was a high priority. So, when I arrived, I identified myself as a Seattleite to the librarian at the reference desk and was surprised when she instantly exclaimed her appreciation for a fine publication—the "Washington Park Arboretum Bulletin"—that was produced in my home city.

This eye-opener made me recognize that the value of our "Bulletin" reaches the plant world far beyond Seattle. How did this come about? To begin to answer this question, we need to look back at the early history of the "Bulletin." Following are some reflections on the first 10 years of the "Bulletin."

BEGINNINGS

Hugo Winkenwerder, dean of the University of Washington's College of Forestry from 1912-1945 and acting director of the Arboretum from 1934-1938, introduced the "Bulletin" in December 1936 with these words:

"With the varied possibilities offered by the Arboretum there will of course be a variety of happenings and experiences, so varied in fact that nearly everybody will find in them something of interest. Through the medium of <u>The Bulletin</u> we hope to pass these on to you for your enjoyment and your use, and if you are not already numbered among our many staunch supporters, to bring you into the fold."

I would venture that the purpose of the "Bulletin" is much the same today, although the look is very different now. Volume 1, Number 1 measured eight inches square and had only three pages (the fourth page was for the mailing information). Photos were far in the future. One tiny diagram showed "The General Plans of the Arboretum," but much of the print is too small to read. In the early years, this newsletter-like publication appeared on a varying schedule. Many of the articles focused on the details of constructing and planting a very new arboretum, and raising the funds to support it.

THE TREE ISSUE

By 1943, the "Bulletin" settled into a quarterly publication, with dimensions similar to today. Better yet, the content now matched the rich variety we've come to expect. For example, "The Tree Issue" was published in June 1943 and included "Getting Acquainted With Northwest Trees," a detailed article by Dean Winkenwerder on identifying our native trees. John Hanley, then

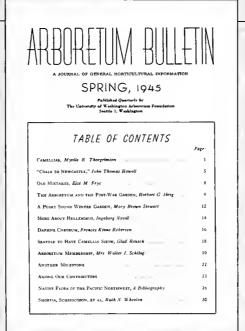
Arboretum director and editor of the "Bulletin," wrote "Some Ornamental Trees and Their Uses," which details design considerations and planting techniques, and includes an annotated list of some 50 recommended selections.

While much of the information in these articles is relevant today, the publica-

tion's design was quite different. There were no photographs and no diagrams. There was little white space amidst a very dense text layout. The reader had no visual aids to help with the tricky identification of similar species or with selecting the perfect tree to plant in the backyard.

EAST AND WEST

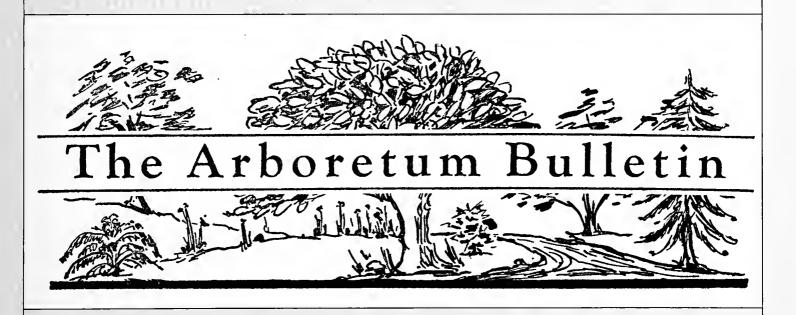
Dr. Hanley, in his article on tree selection, illustrates a striking feature of these early issues. His annotations on recommended trees not only indicate which will do well in Western Washington, but also how they will fare in the very different conditions east of the Cascades.



There are many articles that focus on Eastern Washington. Some might entice west-siders to visit, such as "Autumn Color in Central Washington" (December 1943), "Ginkgo Petrified Forest" (June 1944), or "Ohme Gardens" (September 1944, written by Mrs. H. F. Ohme). But others are written for gardeners

living in Eastern Washington. Lilies, iris, tree fruits, rhododendrons and azaleas are all featured in how-to-grow pieces. These are still valuable today, as plant culture literature for this area is scarce.

Gardeners in Omak would certainly find "Gardening in the Okanagan Valley" (December 1944) of interest; however the author, R. C. Palmer, by use of the Canadian spelling of the valley, makes clear that he lives north of the border. Nonetheless, this lengthy article, that encompasses climate, soil development, plant selection and specialty subjects such as rock gardening and perennial borders, would benefit readers from Kelowna to Yakima. I was





particularly surprised by reference to the dahlia 'Bishop of Llandaff', a seemingly recent star on the horticultural scene, described as being "...really much more beautiful than the very large varieties."

ADVERTISEMENTS

The advertisements in the early years tell stories of their own. Sadly, many of the intriguing nurseries mentioned in them now are only memories, including: Strander Nurseries, south of Seattle, which proclaims they were the "Propagators and Growers of the Largest and Finest Selection of Evergreens in the Northwest" and sold everything from azaleas to boxwood, and heathers to junipers.

The once-verdant area south of Bellevue was home to Larsen's Rare Plants Nursery

("Inquire of us for Unusual Trees and Shrubs") and King of Shrubs Nursery, which specialized in rhododendrons and camellias—and has my favorite name among these long-gone nurseries. Florists, hardware stores, makers of fertilizers and insecticides, and even a bookstore (Harry Hartman, Bookseller, Inc., with "Garden books of general and special interest") are amongst the early advertisers.

THE WAR YEARS

The influence of World War II, especially after Pearl Harbor, was soon reflected in the publication's advertisements. In March 1942, readers were encouraged to use Mapleine imitation Maple Flavor to make Rookie Cookies

FALL 1945



Write the Farm Electrification Department for plans on how to build your own portable electric saw.

It takes a lot of "Muscle Power" to saw a cord of wood. But, it doesn't take much "Puget Power." Reddy Kilowatt will do the job—with the help of a small motor—for less than 2 cents worth of electricity.

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"...for your youngsters—and for your man in the Armed Forces."

Articles influenced by the war followed. The March 1943 issue includes "Planning the Efficient Garden," with a full schedule of planting and harvesting dates for many vegetables. This is followed by "Insect Control in the Victory Garden," "Vitamins and Vim from Victory Garden Vegetables" (a chart of the vitamins found in various vegetables and berries), and "Who Puts Iron, Copper and Vitamins In Your Spinach?"—all essentially acclamations for the values of chemical-based fertilizers to improve your garden's productivity.

Later articles discussed the impact of the war on the great gardens and the nurseries of Europe, including "Horticultural Conditions Western Europe" in winter 1946. Writer Frank Bonnell had particularly high praise for the quick recovery of Dutch nursery business, describing the eagerness to do business with American buyers and claiming it "... is easy to understand why a small nation of nine million people has for centuries been such a big factor in world trade."

In the same issue was an article by John Grant, best known for "Trees and Shrubs for Pacific Northwest Gardens" (the book he wrote with his wife, Carol Grant). "Italian Horticulture" resulted from his postwar service time in Italy. In it he proclaims that, because both areas have similar climates, Italian gardens could clearly benefit from the rich selection of garden plants found in the Pacific Northwest. He suggests that embracing these plants would be a solution to the "... satiating dullness that has apparently been considered necessary or justifiable in too many Italian gardens."



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BEAT 2 eggs, add 11/4 cup sugar, 2 teaspoons Mapleine, beat well. Sift together 1 cup flour, 1/2 teaspoon salt, add to egg mixture. Add 1 cup chopped nuts, 3/4 cup raisins, 1/2 cup rolled oats. Fill greased, wax paper lined 9 x 12-inch pan, 1/2 inch deep. Bake 15 to 20 minutes in moderate (350°) oven. Remove from pan, cool, cut into bars.

MAKE these delicious, wholesome, "double-duty' Rookie Cookies for your youngsters—and for your man in the Armed Forces. They pack and keep well. Mapleine "makes" Rookie Cookies, flavors other treats, too. Get a bottle of Mapleine today.

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There was no word on how this article-first published in Italian and distributed by the "United States Information Service Bulletin"—was received by Italian gardeners and horticulturists.

HISTORY

Reading through the pages of the early "Bulletin" is foremost a history lesson. Many things have changed. For example, the Arboretum no longer has a test garden for annuals, so articles like "New Annuals for 1941" (January 1941) or "How to Grow Annuals Successfully" (Summer 1945) are not to be found in today's issues.

However, many of the articles are still very valuable for research. As a librarian, discovering "Native Flora of the Pacific Northwest: A Bibliography" (Spring 1945) was a real thrill, since it includes all the works of the first 100 years of botany in this region.

In 1946, the first 10 years of the "Bulletin" came to a close. It was also a time of transition for the Arboretum with the departure of John Hanley as director and the arrival of Brian O. Mulligan. We'll look at the Mulligan years in the summer 2010 issue of the "Bulletin."

The author thanks Rebecca Alexander and Kathy Lantz of the Miller Library for their help in research for this article. ~

BRIAN R. THOMPSON is the manager and curator of the Elisabeth C. Miller Library, University of Washington Botanic Gardens and a member of the "Bulletin" Editorial Board.

Brian O. Mulligan continued from page 10

need only meander through the trails of his life's work. Like the plants he so carefully sited, he was the right person, in the right place, at the right time.

Special thanks to John Wott, Randall Hitchin and the staff of the Elisabeth C. Miller Library.

BETSY ANDERSON is a garden historian and landscape designer for the Seattle firm Exteriorscapes. In 2007 and 2008 she was the Horan Fellow for Landscape History for Britain's National Trust and the Royal Oak Foundation, which allowed her the opportunity to tour Trust gardens in England and Northern Ireland and write about their plant collections. Betsy is a member of the "Bulletin" Editorial Board.

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